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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,523	07/28/2003	Ray F. Campbell	BOE 0416 PA	1522

27256 7590 09/13/2004

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EXAMINER

KWOK, HELEN C

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/604,523

Applicant(s)

CAMPBELL ET AL.

Examiner

Helen C. Kwok

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities. Appropriate correction is required.

In claim 7, line 1, it appears that the number 4 should be deleted since the claim depends on claim 5 now.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,454,266 (Chevroulet et al.) in view of either U.S. Patent 5,905,203 (Flach et al.) or U.S. Patent 3,226,981 (Mullins et al.) or U.S. Pub. No. 2003/0079543 (Potter).

Chevroulet et al. discloses a force measuring device comprising, as illustrated in Figures 1-6, a first fixed plate 3; a second fixed plate 4; a plate 2 connected to a flexible member is disposed between the first and second fixed plates; a first transimpedance amplifier 5 receives a first displacement capacitance signal to generate a first scaled voltage signal; a second transimpedance amplifier 6 receives a second capacitance signal to generate a second scaled voltage signal wherein an acceleration signal is

generated from the first and second scaled voltage signals. (See, column 3, line 35 to column 4, line 35). The only difference between the prior art and the claimed invention is the plate is a flexible plate. The references, Flach et al., Mullins et al., Potter, disclose a capacitive acceleration sensor comprising a flexible plate (reference numeral 21 of Flach et al.; reference numeral 12 of Mullins et al.; reference numeral 26(1) of Potter). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of modifying the apparatus of Chevroulet et al. to employ the flexible plate as suggested by Flach et al., Mullins et al. and Potter in lieu of the plate connected to a flexible member as taught by Chevroulet et al. since those skilled in the art will recognize that such modification and variation can be made without departing from the scope of the invention, namely to determine acceleration based on the difference in capacitances between the plate and the fixed plates. Furthermore, as suggested by Potter, other variations, configurations and arrangements can be used. (See, page 2, section 0021).

With regards to claims 2-7, the references further disclose a differential amplifier; A/D converter; integrator; linearizing the integrated signal; actuator to activate a system component. (See, column 5, line 10 to column 7, line 66 of Chevroulet et al.; Figure 9 of Flach et al.; Figure 3 of Mullins et al.).

With regards to claim 8, the references suggest that the system component can be a vehicle system, anti-lock brake system, robotic craft guidance system or other applications. Although the references do not explicitly suggest the system component as a thruster, an attitude control device, missile steering nozzle or vane actuator, it

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would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of using different system component without departing from the scope of the invention, namely to measure acceleration.

With regards to claims 9-15, the claims are commensurate in scope with claims 1-7 and are rejected for the same reasons as set forth above.

With regards to claims 16-17, the claims are commensurate in scope with claims 1-8 and are rejected for the same reasons as set forth above.

With regards to claim 18-20, the references do not teach a second accelerometer and a third accelerometer. However, this is a mere design expedient to an artisan in the art to have duplicate the accelerometer and to have each of the accelerometers in communication with one another. (NOTE: St. Regis Paper Co. V. Bemis Co., Inc., 193 USPQ 8, 11 (7th Cir. 1977)).

Response to Amendment

3. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

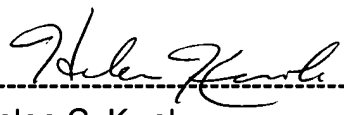
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helen C. Kwok
Art Unit 2856

hck
September 7, 2004